

CUTTING THE FOOT TO FIT THE SHOE: THE ORGANIZATION OF THE BRADLEY BATTALION AND THE 1993 VERSION OF FM 100-5

A Monograph
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Infantry



19960617 033

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First Term AY 95-96

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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 14 Dec 95	3. REPORT TYPE AND DATES COVERED MONOGRAPH	
4. TITLE AND SUBTITLE Cutting The Foot To Fit The Shoe: The Organization of The Bradley Battalion And The 1993 Version of FM 100-5			5. FUNDING NUMBERS	
6. AUTHOR(S) MAJOR BRIAN D. JONES				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) School of Advanced Military Studies Command and General Staff College Fort Leavenworth, Kansas 66027			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Command and General Staff College Fort Leavenworth, Kansas 66027			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) SEE ATTACHED				
14. SUBJECT TERMS Doctrine, Modernization, Vision			15. NUMBER OF PAGES 53	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UNLIMITED	

ABSTRACT

CUTTING THE FOOT TO FIT THE SHOE: THE ORGANIZATION OF THE BRADLEY BATTALION AND THE 1993 VERSION OF FM 100-5 by MAJ Brian D. Jones, USA, 53 pages.

This monograph discusses the evolution of U.S. Army doctrine with respect to the organization of the Bradley-equipped mechanized infantry battalion. General William DePuy's powerful vision, as captured in the 1976 version of FM 100-5, Operations, set the Army on a modernization, training, and leadership path that dominated its concept of warfare for nearly twenty years. This monograph examines the ability of an organization expressly created to satisfy this vision to adapt to the addition of versatility to the Army's operational tenets.

The 1976 through 1986 versions of FM 100-5 articulated the method by which the U.S. led NATO forces would defend Central Europe against a Soviet led mechanized attack. The equipment procurement, resourcing, and training focus of the Army remained predominantly focused on this threat, with minimal adjustments for other contingencies. The Army that emerged by 1990 was the physical embodiment of DePuy's initial vision, as refined by his disciples. However, just as the Army designed to meet this threat was fielded, the threat collapsed.

In the 1993 version of FM 100-5, the Army's doctrinal response to the new strategic environment added versatility and Operations Other than War to its mission requirements. Overlaying a new doctrine on an existing force structure gave rise to numerous considerations. One result is a mismatch of the Bradley battalion's doctrinal focus and its organizational capabilities. The implications of this mis-match are manifested in the areas of training, employment, resources, and future doctrinal considerations. The bottom line is that the Bradley battalion organization is not versatile. It is limited by employment considerations and equipment constraints. In that sense, it does not fully support the current doctrine.

This monograph makes one point absolutely clear: Doctrine and organization must consistently add up to a single, clear vision. The Bradley battalion is now suffering from a fractured vision. The Army needs a new unifying doctrinal vision. It requires an idea so powerful that it is able to re-establish the laser-like focus provided by General DePuy. Without this vision, the Army will attempt to achieve versatility despite the limitations imposed by its current weapons systems and force structure. To attempt to force an organization expressly designed for one purpose into the requirements of another without a clear sense of direction is akin to cutting the foot to fit the shoe. This is fraught with peril, as the next walk taken in the Army's proverbial new shoes may be terribly painful.

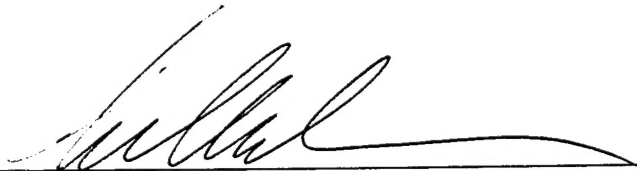
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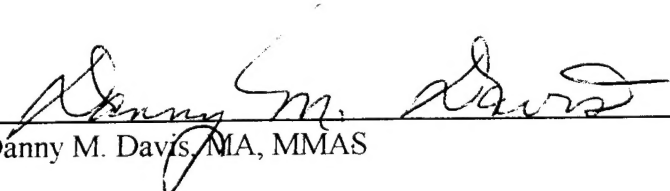
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Title of Monograph: Cutting The Foot To Fit The Shoe: The Organization Of The
Bradley Battalion And The 1993 Version Of FM 100-5.

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Accepted this 14th day of December 1995

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I. Introduction

In its most widely understood role, an army's doctrine is the expression of how it intends to conduct war. In fact, the Department of Defense defines doctrine as the fundamental principles by which military forces guide their actions in support of objectives.¹ This limited perception of doctrine as the expression of how the Army intends to fight is incorrectly confined to actions occurring solely on the battlefield. Doctrine is, in reality, much more than a mere conceptualization of how an army fights. It is an approved, shared idea about the conduct of warfare that undergirds an army's planning, organization, training, leadership style, tactics, weapons and equipment.² It is the guiding principle, the vision, by which armies are raised, trained, maintained, and focused on the strategic threats to a nation's security.

Ideally, doctrine reflects the nature of a nation's strategic threats. Changes in the security environment of a nation are usually mirrored by changes in the doctrine of its armed forces. Such is the case in the evolution of FM 100-5, Operations, the keystone doctrinal manual for the United States Army. The 1976 version of FM 100-5 was a seminal document that attempted to force the Army to focus on the looming conventional threat in Europe after the disappointing results of Vietnam. It was the direct result of the force of personality and analysis of the modern battlefield of General William E. DePuy. Not only did this document drive changes for how the Army intended to fight, it aligned these changes with a weapons procurement program and tactical organization to facilitate this new concept of waging war.

An Infantry Fighting Vehicle (IFV) was one of the half dozen equipment purchases

strongly pursued by the Army to support the concept of combat outlined in the 1976 version of FM 100-5. The M2 Bradley was the end result of this procurement effort. By 1992, every mechanized infantry battalion in the army was outfitted with this physical embodiment of General DePuy's concept of war, as first expressed in 1976. Unfortunately, a great many things had changed in the intervening sixteen years.

It is now 1995, and the U.S. Army has revised FM 100-5 three times since 1976. The first two rewrites, published in 1982 and in 1986, appear to have been driven more by internal army dissatisfaction with the contents of the initial version than by changes in the external security environment of the nation. The latest revision, published in 1993, began to address the paradigm shift associated with the emerging new world order initiated by the internal collapse of the Soviet Union.

The 1976 version of FM 100-5 was written to focus the Army on the threat posed to NATO by the massed armored attacks of the Soviet Union and its Warsaw Pact allies. This threat no longer exists. Yet, the doctrine, weapons, organization and infrastructure to defeat this threat remains a dominant part of the current force structure and of its mental models. The 1993 version of FM 100-5 emphasizes the Army's requirement to prepare for both war and operations other than war (OOTW). The central focus of fighting in NATO has been replaced by a power projection strategy with world-wide deployment implications. The difficulties inherent in this "be everything to everyone" mission are daunting.

The necessity to fight any war any place at any time with only a handful of divisions places a tremendous burden on American doctrine and organization, a burden rarely understood by America's allies or even the general public.³

As the Army attempts to re-think its possible missions in the new world order, there remain numerous constraints to revising doctrine and to aligning doctrinal changes with organizational structure, training, and material acquisition.

Domestic politics are a constant, subtle force in shaping the doctrine of a nation's armed forces. The budget implications of fielding a modern force produce great stresses on even the most robust economy. The search for a "peace dividend" commensurate with the departure of the Soviet specter from the international scene has been relentless. As a result, the services, especially the Army, have been instructed to greatly reduce their size and budgets. With this down-sizing comes the realization that funding for modernization no longer permits the army to aggressively upgrade or radically change its approach to war fighting.

Although the number of weapons systems on hand can be reduced, the expensive weapons such as the Bradley cannot be replaced in the short term. Despite doctrinal adjustments, the 'tools' available will not change in the near future.

Conversely, doctrinal change can be constrained by the Army's necessarily long term investment in specific weapons systems. Because weapons development takes a long time and because, in democracies, funding for weapons is a highly visible political process, an army, except in the extreme circumstances, cannot adopt a doctrine inconsistent with its available weapons.⁴

Like it or not, the fact is that the Bradley will be in the inventory for the foreseeable future. Doctrine then, must articulate how best to employ this piece of equipment in the force projection environment of the 21st century.

The intent of this monograph is to assess the Bradley equipped infantry battalion's employment as envisioned and expressed in the 1993 version of FM 100-5. Specifically,

the primary research question to be answered is: Can the current Bradley equipped infantry battalion perform the doctrinal missions outlined in FM 100-5? Answering this question requires the answering of four subordinate research questions. First, what is the current doctrinal role of the Bradley battalion? This question necessitates the tracing of the evolution of the doctrinal role of the Bradley battalion through the first three versions of FM 100-5 to the present. Second, what is the current equipment authorized to the Bradley battalion? This section will discuss the organization and any changes in the principle combat equipment assigned to the battalion from the initial unit fielding in 1983 until the present. Third, do the prescribed doctrinal manuals for the Bradley battalion support the new doctrinal requirements? This question will explore the tactical employment envisioned for a Bradley battalion and will ascertain the relationship of the supporting doctrinal manuals to the latest FM 100-5. The final research question is: Does the current battalion organization support the latest army doctrine? Answering this question, while considering the equipment and training strategy, will assess the Bradley battalion's ability to support both war and OOTW. Finally, by analyzing and synthesizing the information gathered with respect to the tenet of versatility, the primary research question will be answered.

The intended audience for this research is comprised of force modernization analysts and doctrine writers. The intent is to provide an example of the necessity to ensure that their products are consistently developed in tandem.

This paper will attempt to discuss the larger issue of a possible doctrinal and equipment mis-match within the Army. This paper will not discuss items of continuing

debate within the Bradley community. It will not dissect the organization of the dismounted platoon. It will not attempt to fix blame for the systemic lack of dismounts in Bradley units. It will not attempt to prove or disprove the need for an additional machine gun element in the Bradley platoon. Finally, it will not try to ascertain the efficacy of the different Bradley gunnery strategies. Aligning doctrine with equipment capabilities is the larger, and more important, issue.

II. The Doctrinal Shift

Understanding the U.S. Army's current doctrinal approach to mechanized infantry operations necessitates a review of the evolution of that doctrine. Mechanized infantry doctrine began in the inter-war years to provide complementary capabilities for the tank force. World War II accelerated the evolution of infantry-tank warfare and resulted in numerous changes to the concept, composition and tactical employment of the armored force. The U.S. Army emerged from the crucible of World War II with a significant amount of armored experience. Post-war doctrine and organization embraced balanced infantry-tank task forces capable of waging and sustaining the high tempo operations that characterized the sweep across France. Doctrine called for the armored personnel carrier (APC) to accompany the tanks and to deliver the infantry soldiers to the battlefield as required. The APC was a "combat taxi," providing tactical lift but little firepower and only limited protection.

The wars in Korea and Vietnam slowly diluted the U.S. armored experiences of WWII, and caused the focus of the army to shift towards the prosecution of unconventional warfare. As the U.S. Army fought on these battlefields, other armies

continued to develop doctrine and organization for mechanized warfare. In the early 1960s, the Soviet Union began to field a highly mechanized army designed for employment in Europe. The BMP, the first true infantry fighting vehicle (IFV), was a prime component of the Soviet approach to mechanized warfare. The BMP enabled the Soviet infantry to remain close to the tanks under artillery fire, to fight mounted, and still provide dismounted support throughout the operation as needed. The BMP also allowed the Soviets to design operations of extremely high tempo for both non-nuclear and nuclear scenarios.⁵ Meanwhile, U.S. mechanized infantry doctrine had stagnated at the combat taxi stage, although the M113 served that purpose well. The withdrawal from Vietnam and the results of the 1973 Arab-Israeli war forced the army's attention back to Europe and the growing Warsaw Pact threat.

General William E. DePuy, appointed as the first commander of the newly formed Training and Doctrine Command (TRADOC), was to be the architect of the Army's doctrinal re-awakening. DePuy did not choose to interpret the reduction in the Army's size and the shift to an all volunteer force as a result of the Vietnam debacle. Instead, he recognized the larger shift in U.S. strategy as a reaffirmation of the U.S. commitment to NATO in the face of a continuing Soviet build up.⁶ In DePuy's mind the next war, and the worst possible case, would be fought allied with NATO for the existence of a democratic Europe.

Soviet military buildup produced lopsided (and unfavorable) force ratios for conventional forces in Europe. Their dogged perseverance in building Warsaw Pact troop strength against NATO resulted in Soviet equipped forces possessing 37 times

more armored personnel carriers in 1976 than did the 1945 Red Army.⁷ As if the sheer size of this build up was not shocking enough, DePuy analyzed the lethality of armored vehicles in the 1973 Arab-Israeli war and surmised that the Soviet juggernaut was much too formidable for the U.S. Army in its current state.

DePuy's genius in wrestling with this problem resided in his ability to take a systemic approach. He recognized that to fight out-numbered and win in Europe, the army needed not only a method of fighting which was acceptable to the NATO allies, but a new array of weapon systems that could execute these tactics. An experienced combat officer from World War II and Vietnam, DePuy realized that any training systems, weapons or new equipment fed into the army haphazardly would only waste precious resources. Whatever was done must have a unifying concept; a vision that provided an over-arching goal to focus the army's efforts. It also had to galvanize potential supporters in the halls of Congress to ensure financial support. That vision was to be embodied in a rewrite of the Army's keystone doctrinal manual, FM 100-5, Operations.

DePuy perceived that no relationship existed between the schools and the combat developers. Consequently, USADCD could not develop doctrine, organization, and equipment needs because civilian contractors and the Army Material Command dominated the equipment development process. Doctrine and organization were incompatibles with the equipment being developed. As a result, the Army invested in impressive equipment without thoroughly considering whether such equipment was compatible with equipment already on hand or being developed or with the Army's likely use of such equipment on the battlefield.⁸

DePuy saw FM 100-5 as a manifestation of what today is labeled as a vertically nested commander's intent. He was going to use FM 100-5 to focus the army's rebuilding efforts on beating the Soviets and their surrogates. He realized that the Army could make a

unified case for the new weapons it required if it spoke authoritatively about "how the Army fights" and could show these weapons essential to that concept.⁹ His methods, in retrospect, were often almost imperial. His results in orienting the entire Army on the threat, discounting the howls raised by the tactical critics of his written doctrine, were tremendously successful.

The 1976 version of FM 100-5, Operations, outlined General DePuy's vision of the lethality of the NATO battlefield and the role of mechanized forces in that fight. This "capstone" doctrinal manual grew out of deep and penetrating inquiries into the meaning of the new technology of weaponry and the nature of the NATO battlefield.¹⁰ In its very first chapter, FM 100-5 sounded the notes that would build to DePuy's mantra:

We cannot know when or where the U.S. Army will again be ordered into battle, but we must assume the enemy we face will possess weapons generally as effective as our own. And we must calculate that he will have them in greater numbers than we will be able to deploy, at least in the opening stages of conflict. Because the lethality of modern weapons continues to increase sharply, we can expect very high losses to occur in short periods of time.¹¹

Plainly stated, the Army had to field a force that could fight outnumbered and win.

There was no hidden agenda in the text of this manual. DePuy's TRADOC authors made it unabashedly clear that this doctrine was designed mainly to deal with the realities of operations in Central Europe against the Warsaw Pact.¹² Given the poor condition of the U.S. Seventh Army and the buildup of Warsaw Pact forces, this made perfect sense for the Army. Given that U.S. policy all but prohibited the use of U.S. forces in any contingency other than meeting its alliance obligations to Japan, Korea and NATO, it seemed the wisest course to pursue.¹³ Finally, since this ominous threat could be clearly

represented before Congress. it gave the effort to fund the required weapons acquisitions a renewed sense of fiscal urgency.

The authors of FM 100-5 minced no words in graphically describing the nature of the Soviet threat. The manual's key chapter on the lethality and capabilities of modern weapons drew a stark and frank picture for the reader.¹⁴ This was necessary not only to paint a picture of the NATO battlefield to the post-Vietnam army, but to hammer the point home to congressional aides, supporters and critics.

All great armies of the world rest their land combat power upon the tank. The armies of the Warsaw Pact, fashioned in the Soviet model, incorporate masses of tanks, backed by an impressive industrial base producing large numbers of quality armored fighting vehicles. Warsaw Pact doctrine anticipates use of nuclear weapons in future war, but teaches preparedness to fight without them. For both conditions, *it emphasizes heavy concentrations of armor.*¹⁵

No congressman could stand up in the halls of Congress and deny "our boys" the modern equipment they would need to face this adversary. The remainder of FM 100-5 continued to amply illustrate that the Army needed modern weapons that were technologically superior to the enemy. Only mobile, technologically superior weapons could offset the numerical inferiority that would characterize the defense of NATO. Modern replacements for the M60 tank and M113 APC became key ingredients in the planned defense of Central Europe.

One of the critical weapon systems that General DePuy would use the new doctrine to justify was an infantry fighting vehicle (IFV). A new APC was not the answer to facing the numerically superior Soviets. He realized that the M113 APC was not in the same league as either the Soviet BMP or the German Marder, and feared the M113 would be

driven off the battlefield in a war in Europe.¹⁶ An infantry fighting vehicle was required to assist the tank in the mobile defense of Germany. This was a key lesson that DePuy had garnered from the 1973 Arab-Israeli war, and one his doctrine writers would also make graphically clear. The M113 did not have the mobility, firepower and protection DePuy envisioned as prerequisite to this fight. He believed that to assist the movement of the tanks best, infantry forces would need mobility and armored protection equivalent to that of the tank force. He envisioned the infantry moving and fighting alongside the tanks using automatic small arms fire to suppress enemy anti-tank capable infantry such as the Israelis had encountered. The infantry would dismount to assault the enemy only if there was no other option. This method represented more direct infantry participation in the tank battle than had been the case in the U.S. Army's doctrine up to that point in time.¹⁷

DePuy knew that tactics had to be firmly tied to the capabilities of the weapons employed on the well-studied terrain of Central Europe, and that they must reflect the actual strategic circumstances believed likely to continue for the foreseeable future.

Again, the doctrine writers painted the requisite picture early in the manual:

The mechanized infantryman can fight from his armored carrier while maneuvering across the battlefield, adding his suppressive fires and observation to armored task forces. When tanks cannot advance, he often takes the lead. He can, by fire and maneuver, eliminate antitank gunners concealed in woods or buildings, breach minefields, and employ stealth or air mobility to seize key terrain.¹⁹

After reading Chapter Two of the 1976 version of FM 100-5, the necessity of possessing a modern mechanized infantry force to complement the tank force was apparent. And

from that point, it was but a small step to argue the need for an infantry fighting vehicle.

An infantry fighting vehicle, a qualitative increase to counter the quantitative weight of Soviet numbers, became a tactical necessity. Victory could not be obtained in any defensive war game with a lesser substitute. Leaning heavily on projected lethality tables, the defense of NATO was tested against the envisioned Warsaw Pact array attacking variously armed U.S. and NATO defenders in computer simulations. Seizing upon the McNamara bend for statistical evidence they had previously disdained, the Army's systems analysts demonstrated the requirement for an infantry fighting vehicle able to effectively counter the Soviet led onslaught.²⁰ These calculations were carried out in infinite detail:

In the battle calculus, measurable quantities were computed and analyzed in terms of minutes into the battle. Analytical categories included ratios of opposing forces by troop strength and weapon type, rate of enemy advance, intervisibility across terrain, best ranges of fire by weapon type, comparative rates of fire, number and opportunities to fire, number of commander decisions, and time lengths to call for and receive attack helicopter support and Air Force close air support.²¹

Only an IFV capable of rapidly "servicing" the numerous Soviet tanks and BMPs could produce victory in Europe. DePuy's doctrine clearly reinforced the army's modernization plans in that it required the infantry fighting vehicle to achieve victory on the Central European battlefield. The IFV became a mathematical necessity. Therefore, an IFV, as well as four other programs, became acquisition priorities. These priorities would reflect not only a physical representation of DePuy's attempts to focus the Army; but would become a political symbol of the nation's commitment to NATO's defense.

With the central role DePuy envisioned for the mechanized infantry in the 1976

version of FM 100-5, the employment guidance for this arm was rather prescriptive.

Generally, the army accepted a style of "active defense" in Germany which relied on the lateral movement of forces from quiet sectors to concentrate their effects and firepower against incoming enemy spearheads at identified points of threat. ²² DePuy's doctrine writers prescribed specific actions for the mechanized infantry in support of the combined arms in the attack.

As tanks move forward, mechanized infantry supports and assists by:

- Dismounting and clearing mines, obstacles blocking the way or supporting engineer troops so involved.
- Suppressing by fire enemy infantry close enough to engage tanks with RPG-7 type rocket weapons mounted or dismounted.
- Suppressing ATGM within range.
- Dismounting and eliminating enemy infantry or ATGM positions which cannot be suppressed.
- Infiltrating on foot in advance of or in support of tank attacks to seize terrain from which the defender could stop the attack.
- Protecting tanks from enemy infantry during bad weather, in smoke, or at night.
- Protecting tanks in urban areas.
- Providing long range ATGM support from over watching positions during the attack. ²³

As the army, at the time the doctrine was published, did not yet possess any of the new tanks or IFVs central to DePuy's envisioned NATO defense, the doctrinal roles for the infantry concentrated on ensuring that the tanks had the mobility to move freely on the battlefield. These duties reiterated the traditional roles of "in house" mechanized infantry, and did not differentiate between IFV or APC equipped forces. ²⁴ Any requirement for an IFV as opposed to an APC could only be inferred from the scenario presented. However, given the graphic method used to present the overwhelming armored strength of the enemy, such a conclusion was hard to elude.

In discussing the mechanized infantry duties in support of the combined arms in the defense, FM 100-5 again argues for the necessity of supporting the tank.

Mechanized infantry supports and assists the defense by:

- Destroying enemy tanks and armored vehicles at long ranges with TOW (3000m) and Dragon (1000m).
- Over watching tank movements and counter attacks with ATGM.
- Suppressing enemy anti-tank weapons while friendly tanks are moving on the defensive battlefield.
- Conducting dismounted attacks against enemy infantry anti-tank weapons if they cannot be suppressed and it is necessary to move defending tanks in counterattack to new battle positions.
- Blocking covered and concealed routes of enemy attack or infiltration.
- Patrolling and reconnoitering difficult terrain day and night.
- Securing tanks and ATGM at night.
- Holding wide frontages, in economy of force missions, and defending in terrain unsuitable for tanks, such as forests and cities.²⁵

Again, there appears to be no directly stated need for the procurement of an IFV, and the missions are the traditional mechanized duties. However, in discussing the defense, the numerical superiority of the Soviet bloc forces is the central and prominent theme. In the manual's description of the main battle area of the defense, it articulates the enemy's ability to overwhelm the defenders with concentrated masses of tanks and armored vehicles, supported by heavy artillery fires. It states that the success of the defense depends upon the destruction of enemy armor, and explains how the problem revolves around destroying numerous targets in a short period of time.²⁶ Unlike the visual images used to describe the offense, the graphic portrayal of artillery raining on the defender in a mobile scenario leaves few conclusions about the requirement for modernized armored vehicles. In fact, an examination of the sixteen offensive and defensive duties listed in the manual illustrates that fully half of them are unarguably better accomplished by an

IFV. The fact that five of these eight duties occur in the defense only serves to further reinforce DePuy's primary message.

There were additional messages that DePuy wove into the doctrinal re-write he forced through the Army bureaucracy in 1976. A second purpose this doctrinal manual performed was aimed at integrating the coalition partners. Both the mechanized infantry duties and the overall active defense scheme relied heavily on German *panzergrenadier* doctrine, and therefore received the full backing of this major NATO partner.²⁷ A third purpose, although one that was not as successful, was to garner the unquestioning support of the United States Air Force.

Criticism of the 1976 version of FM 100-5 was immediate and harsh. The problems were numerous and are outside the scope of this paper. Essentially, critics felt that it focused exclusively on Europe; it assumed the Soviets would employ a breakthrough type of attack; it accepted huge risk in economy of force areas to allow concentration against the main attack; it denied initiative at the lower levels; and it did not allow for a subtractive reserve. There were more reasons, but the bottom line was that it would not work.

The overwhelming evidence of the argument was that no matter how effectively the Soviet assault echelons were defeated, the advancing second echelons would at some point overwhelm the target servicing capabilities of the worn-down defending forces.²⁸

General Donn Starry, the new TRADOC commander, was well aware of the shortcomings of the initial FM 100-5. As the commander of V Corps, he had been examining methods to extend the depth of the battlefield even as he worked with DePuy

to finalize the initial version. As a result of his experiences, the replacement doctrine incorporated the perspective of a division operating in a Corps in Europe.²⁹ In fact, the Corps was the key level of command in TRADOC's concept, as it was responsible for detecting and destroying the follow on echelons and setting the conditions for the successful execution of the close fight.³⁰ Published in 1982, after six years of adapting and refining Starry's initial concept, the newest version of FM 100-5 introduced the Army to 'AirLand Battle.'

Although it introduced a broader, conceptual approach to warfare, the 1982 FM 100-5 retained a clear focus on battle in Central Europe.³¹ AirLand Battle was expressly designed to separate and defeat the echeloned attack of Warsaw Pact forces in Central Europe. Whereas the initial version of 100-5 had concentrated on winning the first battle of a single massive breakthrough, the updated version allowed for a different Soviet operational approach.

The active defense, modeled against a Soviet "breakthrough" attack, did not account for a perceived change in Soviet offensive doctrine from a massed "breakthrough" penetration in successive echelons to a "multipronged" offensive designed to keep the defender off balance and then to exploit any weak spots in his defenses with an "operational maneuver group" held in reserve.³²

The 1982 version of FM 100-5 updated Army doctrine to match a perceived shift in Soviet doctrine. It dealt primarily with war against modern well-equipped forces, but it was not limited in application to the Warsaw Pact and Central Europe. The concept was germane also to large scale mechanized war in the Middle East and to the threat in Korea. It thus dealt with the Army's major and most serious challenge--armored, mechanized, combined arms battle.³³

Although TRADOC did not ignore the assertion that its initial doctrine was solely applicable to Europe, its interest in those other areas was minimal. The 1982 version of FM 100-5 kept Army doctrine firmly centered on the execution of mechanized war, whether in Europe or elsewhere.

It [the Army] must be prepared to fight highly mechanized forces typical of Warsaw Pact or Soviet surrogates in southwest or northeast Asia. In the areas of greatest strategic concern, it must expect battles of greater scope and intensity than ever fought before. It must anticipate battles fought with nuclear and chemical weapons.³⁴

The "area of greatest strategic concern" was, of course, Central Europe. However, any war fought in the other areas mentioned would be patterned after that war using the AirLand Battle model. The need for an armored-mechanized, combined arms team continued unabated.

The 1982 version of FM 100-5 was less prescriptive in assigning missions to the combined arms team. It listed a condensed version of the mechanized infantry's "in house" duties from those originally listed in the 1976 version. However, recognizing that the equipment spurred by the 1976 version was entering active service, it specifically addressed forces armed with IFVs.

Mechanized infantrymen have the same mobility as tanks but less firepower and protection. Armor and mechanized infantry must perform as a team to defeat enemy armored forces on the modern battlefield. When equipped with infantry fighting vehicles, the mechanized infantry is significantly more capable. So equipped, it can accompany tanks in mounted assault. In defense, they are pivots for maneuvering tank heavy forces.³⁵

A "significantly more capable" mechanized infantry fighting vehicle-equipped force was what General DePuy had envisioned more than seven years before.³⁶ Now, after a much

maligned development process, the Army was beginning to receive the Bradley Infantry Fighting Vehicle (BFV) in battalion strength.

The 1982 version of FM 100-5 wedded a force growing in capability to a doctrinal approach expressly designed to defeat the Warsaw Pact. This doctrine relied on the firepower generated by the new weapons, and fully integrated a supportive USAF in a close air support role. It also addressed the moral aspects of combat, introduced the tenets of combat operations, and discussed the operational level of war. It resulted in a more all-encompassing doctrinal approach to war. And, although the manual did not denigrate the APC, it continued to reinforce the critical role of an IFV on the Central European-model mechanized battlefield.

The equipment that an American-led NATO force required to defeat the Soviets was finally becoming a physical reality. The doctrine designed to defeat the Warsaw Pact in the central battle and to destroy its following echelons by deep interdiction was also in place. After an almost ten year struggle, the strategic environment, the Army's doctrine, and the Army's equipment were moving towards DePuy's conceived alignment. It was probably the first relative alignment of these three components in the post World War II era. Unfortunately, it almost immediately required a slight mid-course correction.

Even as the 1982 doctrine was being published, plans were being reviewed for fielding two light infantry divisions to be deployed to potential low intensity conflict areas. Low intensity conflict emerged in the early eighties as a threat to the rebuilt U.S. conventional strength. A resurgence in surrogate low intensity warfare on the periphery of the Soviet-American spheres of influence added new strains to relations between East

and West. Reacting to the new strategic environment, TRADOC again began examining possible changes to Army doctrine.

Almost as soon as the ink was dry on the 1982 version of FM 100-5, TRADOC began assessing how to modify that version to recognize the latest changes in the strategic environment. It was not that the threat to NATO had disappeared. On the contrary, it was just as formidable as it had always been. The emergence of the more probable threat posed by less mechanized forces caused the Army to review its doctrinal approach.

Less mechanized but otherwise well equipped regular and irregular forces and terrorist groups can be expected to operate against Army forces in most parts of the world. In low intensity conflicts, light forces, insurgents, and terrorists may be the only military threat present.³⁷

The authors sensed that although this threat was significant, it did nothing to lessen or obviate the main threat to the strategic interests of the United States. As a result, the 1986 version of FM 100-5 did little to change the 1982 focus on the NATO-centric battlefield. In fact, the changes for the Army's fighting forces were almost transparent.

The 1986 version of FM 100-5 differed slightly from the 1982 version. It proclaimed that while AirLand Battle doctrine focused primarily on mid- to high-intensity warfare, the tenets applied equally to the military operations that characterized low intensity conflict.³⁸ It provided added emphasis to low intensity conflict, expanded the discussion of Joint and Combined operations, and provided an added impetus to Contingency Operations. Yet, its instructions for the practitioners of mechanized combined arms warfare were hardly altered at all.

For the mechanized infantry, it outlined the exact same "in house" duties as the 1982 version, while adding a minor tactical consideration for the IFV forces.

Mechanized infantryman have the same mobility as tankers but less firepower and protection. Armor and mechanized infantry must perform as a team to defeat enemy armored forces. When equipped with infantry fighting vehicles, the mechanized infantry can accompany tanks in mounted assault, although care must be taken in determining when and where infantry must dismount to accomplish this mission. In the attack, such infantrymen can act as fixing forces. In the defense, they act as pivot points for maneuvering tank-heavy forces.³⁹

Commenting on the dismount point was the only change specifically applicable to the mechanized forces contained in the 1986 version. However, this was appropriate, as neither the threat against NATO nor the overall scheme for facing the Warsaw Pact had changed significantly. Again, the strategic environment, the Army's equipment and the Army's doctrine were relatively aligned. However, the relative stability of this alignment proved to be all too fleeting.

The collapse of the Berlin Wall, followed rapidly by the brief fury of the Gulf War, put the TRADOC doctrine writers in an awkward position. The strategic environment had changed significantly, and the authors recognized the importance of adjusting the doctrine accordingly.

Doctrine permeates the entire organizational structure of the Army and sets the direction for modernization and the standard for leadership development and soldier training.⁴⁰

The new doctrine had to be updated to account for the monumental shift in the strategic environment. Yet, it still had to provide the focus for training, modernization and resourcing exemplified by the 1976 version.

The 1993 version of FM 100-5 stressed the necessity of force projection, the

continued ability to fight the Central European style mechanized battle, and introduced a chapter on Operations Other Than War (OOTW). The collapse of the Soviet Union marked the relative end of the NATO-centric focus of the United States Army. But, due to the continued existence of Soviet style armies, it did not mark the end of the Warsaw Pact inspired method of conducting mechanized combat operations. The new manual did introduce the concept of simultaneous rather than sequential battle, but it did little to change the role of combat arms units in the close fight. In light of this, the changes to the doctrinal role of the mechanized force were only slightly altered. The identical "in house" duties again formed the basis of the mechanized infantry's tasks. However, since all Army units possessed the Bradley by the time this manual was published, the interpretation of the moniker "mechanized infantry" acquired a new meaning.

Mechanized infantry forces seek to integrate fast, protected mobility; lethal, vehicle mounted, fire support systems; and dismounted infantry skills with an effective fighting system that enhances the striking power of the armor forces.⁴¹

At this time, mechanized infantry became synonymous with infantry mounted in IFVs. The ability and doctrinal guidance to fight the now traditional style of war General DePuy envisioned in 1975 was retained. But, new fiscal realities forced the Army to doctrinally recognize its utility in non-traditional missions.

The emerging multi-polar world demanded an increasingly flexible force capable of responding to a wide variety of combat or pseudo-combat operations. In lieu of this new reality, a fifth tenet for Army operations was added to the doctrine: versatility. The 1993 version of FM 100-5 defines versatility.

Versatility is the ability of units to meet diverse mission requirements.

Commanders must be able to shift forces, tailor forces, and move from one role or mission to another rapidly and efficiently. Versatility is the ability of tactical units to adapt to different missions and tasks, some of which may not be on unit mission essential task lists (METL). In a force projection Army, however, the demands for versatility increase.⁴²

As described by this portion of FM 100-5, versatility would seem to reflect nothing more than the adaptations units have made throughout the army's history to the changing conditions of the battlefield. This is certainly nothing out of the ordinary. However, FM 100-5 goes on to describe versatility in a different manner.

Versatility denotes the ability to perform in many roles and environments during war and operations other than war. It allows for the smooth transition from one mission to another. Versatility requires competence in a variety of missions and skills. It suggests that all military organizations must have the ability to organize in different combinations of units and the capacity to redeploy from one area or region to another without loss of focus.⁴³

The Bradley battalion, the result of nearly twenty years of focusing equipment refinements and honing tactics for fighting the cataclysmic Central European-model mechanized fight, must now be able to conduct other missions "without loss of focus". Given the Bradley battalion's current equipment, its force projection mobility requirements, and its traditional training focus on armor heavy warfare, is the Army expecting too much? It seems possible that the result of the 1993 version of FM 100-5 was to put the Bradley equipped battalions, the Army's doctrine and the strategic environment somewhat out of alignment.

III. Fruition and Fixation

As General DePuy had envisioned, the doctrine that he instituted in 1976 gave rise to an Army specifically designed and organized for the European battlefield. The

acquisition of the M1 Abrams tank, the M2 Bradley IFV, the AH 64 Apache, the UH-60 Blackhawk and the Patriot air defense system exemplified the Army's translation of his vision into actual fighting capabilities. DePuy's vision was nested horizontally to ensure that these new weapons systems were mutually supportive. It was nested vertically to ensure each system could accomplish its specific role in his concept of the Central European mechanized battle.

DePuy's concept for employing the IFV equipped mechanized infantry reflects the capabilities he expected to be incorporated in the organization of these battalions.

In the defense-hull down or dug in-the firepower of the Bushmaster alone exceeds the firepower of a whole squad against dismounted attackers. The armor piercing round can destroy light armored vehicles. The antitank guided missile can overwatch and protect advancing tanks. In the attack, the XM2 [the developmental name for the BFV] can escort and protect tanks by suppressing or destroying dismounted infantry armed with antitank weapons. Lastly, and importantly, the XM2 can make the difference in the most difficult aspect of the active defense. Carrying only nine soldiers when at full complement, and leaving behind at least a driver and gunner, the dismounted squad will probably average no more than five men in actual combat. A platoon of 20 men and a company of 70 or 75 on foot with light weapons will not have the capability to maneuver in heavy combat. *But* that platoon or company, like Rommel's "weak" assault element, supported by a dozen or more XM1s [the developmental name for the M1 tank] and XM2s in the suppression role, can overcome enemy dug-in positions in the way of the armored force. The stabilized and armor-protected 25mm Bushmaster is ten times as effective as the standard infantry machine gun in the suppression role. How Rommel's mouth would have watered! The ability to defend NATO requires a military force that can move on the battlefield.⁴⁴

The challenge of translating this graphic conceptualization into an actual organization fell to the Army's combat developers. The essential point is that the BFV battalion organization was to be designed expressly for the Central European-NATO battlefield. This organization had to provide the flexibility to task organize and create the tank-

infantry task forces vital to prosecuting the mechanized war. It had to contain enough infantrymen in a single company to perform the "in house" duties required to keep an armor heavy battalion task force moving forward. In DePuy's concept of defending of NATO Europe, based largely on his WWII experiences and his study of the Arab-Israeli War, no other organizational purpose was required. The initial Bradley battalion organization had to capture DePuy's concept of mechanized war, and accurately reflect the intent of the 1976 version of FM 100-5.

The Table of Organization and Equipment (TO&E) translates the designer's concept into an equipment and personnel design which is capable of accomplishing the conceptual missions. It is subjected to a three year cyclic review and updated only when a change in doctrine dictates an adjustment is necessary.⁴⁵ This causes the TO&E to remain a relatively stable document. Each TO&E consists of two sections. The first section articulates the unit's organization, and the second section details its equipment and personnel authorizations.

Section I of the TO&E describes the mission for which each particular unit is designed, lists the capabilities of that unit, and assigns the basis of allocation for that unit within a higher headquarters. It also provides the reporting category of the unit for readiness calculations, discusses the mobility requirements of the unit's equipment and personnel, and lists the doctrinal manuals applicable to the tactical operation of the unit. Section II of the TO&E provides a break down of authorized personnel by grade and a summary of authorized equipment.

An examination of Section I of the initial Bradley battalion TO&E illustrates the

translation of the conceptual role envisioned for the battalion into actual capabilities. It is interesting to note that both the M113 and the IFV equipped infantry battalions were governed by the same Section I of the TO&E. This reflects both the traditional role envisioned for the mechanized infantry and the Army's difficulty in translating DePuy's vision of the proper tactical employment of the new IFV equipped force. This confusion over the traditional mechanized infantry's missions as compared to the missions assigned an infantry fighting vehicle-equipped force has never really been reconciled.⁴⁶ The manifestations of this tension created by the demands of an infantry rich/vehicle poor force and a vehicle rich/infantry poor force continue to haunt the "one-infantry" community.

The mission and capabilities paragraphs of Section I articulate the role of the Bradley battalion. The mission assigned to the BFV battalion in the first Bradley specific TO&E, dated 1 April 1983, was the traditional infantry mission.

To close with the enemy by means of fire and maneuver in order to destroy or capture him or to repel his assault by fire, close combat and counterattack.⁴⁷

This mission is no different than the mission assigned to all infantry units, and is generic enough to elicit little further comment. However, note that it is not restrictive in any manner and that its focus, in keeping with the spirit of the 1976 version of FM 100-5, is clearly on combat operations.

There were thirteen separate capabilities assigned to the Bradley battalion in the initial TO&E. They reflect a mixture of combat and combat support tasks.

- (1) Provides a base of fire and maneuver elements.
- (2) Seizes and holds terrain.

- (3) Conducts independent operations on a limited scale.
- (4) Provides organic antitank protection.
- (5) Provides limited mortar indirect fire support for organic and attached units.
- (6) Provides long range patrolling when properly equipped.
- (7) Provides a high degree of cross country mobility to successfully exploit the effects of nuclear and non-nuclear weapons
- (8) Provides a force that complements and enhances the inherent capabilities of tank elements, when employed in tank/infantry teams.
- (9) Provides a force that can participate in airmobile operations when provided with air transport.
- (10) Maneuvers in all types of terrain under all climatic conditions.
- (11) Participates in amphibious operations.
- (12) Participates in counterinsurgency operations as elements of brigade-size backup forces.
- (13) Provides unit level medical support to include emergency medical treatment, operation of battalion aid station, evacuation of patients to the battalion aid station and aid men to the rifle and antiarmor companies.⁴⁸

Of the thirteen capabilities, eight (numbers 1, 2, 3, 5, 6, 10, 11 and 13) are arguably generic to the combat responsibilities of any type of combat arms maneuver battalion. None of these eight are mentioned in the tasks specifically assigned to the mechanized infantry in the 1976 version of FM 100-5. Two capabilities, that of air mobility and counter insurgency, are legacies of the Vietnam conflict. Air mobility, an area where the U.S. had a perceived technological and doctrinal advantage was deliberately incorporated in the 1976 version of FM 100-5 to ensure a continued preeminence in this tactical technique.⁴⁹ The inclusion of counterinsurgency capabilities reflects the recognized utility of armor in Vietnam. The stipulated backup role assigned to a Bradley unit is both a recognition of the ability of armored forces to contribute in this environment and an acknowledgment of their inherent limitations. Two of the remaining three capabilities are paraphrases of DePuy's concept for duties assigned infantry fighting vehicle-equipped units in his Central European model of warfare.⁵⁰ The capability to provide

mobile antitank suppression and the requirement to complement the tank-infantry team reflect the lessons of the Arab-Israeli War and the envisioned NATO battlefield. The final capability, providing cross country mobility to exploit the effects of nuclear and non-nuclear war, provides a direct counter to the Warsaw Pact capabilities of the BMP. Section I of the battalion's TO&E focuses the organization on combat missions. This focus is skewed towards the mechanized Central European-NATO battlefield in accordance with the doctrinal precepts established in the 1976 version and retained in the 1982 version of FM 100-5.

An examination of Section II facilitates discussion of the major combat systems assigned to enable the Bradley battalion to perform its combat missions. Section II of the 1983 TO&E outlines the personnel and weapon systems allocated to the battalion. The initial Bradley battalion was built around the combat employment of fifty-four M2 BFVs, six M106 mortar carriers, twelve Improved TOW Vehicles (ITVs), and six M3 scout vehicles.⁵¹ This organization provided four rifle companies of 13 BFVs, an ITV company, and a headquarters company. Each rifle company had three platoons of four BFVs, and each platoon had three squads of six dismounts each. As designed, a Bradley battalion based its combat power on its four Bradley companies comprised of 14 vehicles and nine dismounted squads of six men each. This made the Bradley battalion highly interchangeable with the four company tank battalion designed for the M1 Abrams. In fact, the designs were nearly identical with the same number of line companies, scouts, mortars, and comparable Headquarters and Headquarters Companies. This facilitated the cross attachment DePuy envisioned as vital to the successful accomplishment of their

respective war-time missions.

This organization captured DePuy's vision for the IFV battalion. It possessed the mobile, armored firepower and the dismounts to protect the tank forces of the Central European battlefield. That this organizational structure limited the battalion to mechanized warfare was not an issue at that time. It was designed solely for the battle calculus of NATO Europe, or for mechanized warfare with Soviet surrogates along that model. The relative lack of dismounted soldiers, a problem of growing concern shortly after fielding these units, did not present a problem in DePuy's initial concept. Firepower and mobility would be more than adequate substitutes for manpower. Unfortunately, as DePuy's organizational concept reached fruition in the focused nature of the BFV battalion, strategic realities began shifting organizational demands in a different direction.

The initial TOE changed little after the publication of the 1986 version of FM 100-5. The organization section, to include the mission, did not change at all.⁵² This was perfectly acceptable, as the threat remained centered on the Warsaw Pact and its surrogates in a mechanized scenario. The battalion organization remained fixated on the NATO battlefield. In fact, the remaining TO&E changes prior to the 1993 version of FM 100-5 reflected only minor refinements based on the lessons learned in training scenarios, at the NTC, and in the Gulf War.

Consistent with the emergence of the new world order, the 1993 version of FM 100-5 imposed a new range of doctrinal demands upon the Army's organizational structure. The strategic realities which were instrumental at the inception of the Bradley battalion

had changed. Specifically, the 1993 version of FM 100-5 introduced the concept of Operations Other Than War (OOTW). Operations other than war are forcing the Army to re-examine its organizational focus on the mechanized combat along the Central European model. In essence, this document questions the current utility of the premise upon which the Bradley battalion was organized.

In response, the 1995 Bradley TO&E has been adjusted. Section I, which lists the mission and capabilities, attempts to articulate this adjustment. However, the changes it incorporates are superficial, as the organization of the battalion prevents anything more substantial. The mission remains exactly the same. The capabilities have been modified slightly to incorporate both the significant change in the strategic environment and the resultant change in doctrine [emphasis added].

- (1) Provides a base of fire and maneuver elements.
- (2) Seizes and holds terrain.
- (3) Conducts independent operations on a limited scale.
- (4) Provides antitank protection for organic *and attached units*.
- (5) Provides mortar support for organic and attached units.
- (6) Conducts long range patrolling.
- (7) Provides a high degree of cross country mobility to successfully exploit the effects of nuclear and non-nuclear weapons
- (8) Provides a force that complements and enhances the inherent capabilities of tank elements, when employed in tank/infantry teams.
- (9) Provides a force that can participate in airmobile operations when provided with air transport.
- (10) Maneuvers in all types of terrain under all climatic conditions.
- (11) Participates in amphibious operations.
- (12) Participates in counterinsurgency operations as elements of brigade-size backup forces.
- (13) *Conducts operations other than war and may require augmentation for that mission.*⁵⁴

Seven of the eight generic capabilities and both the air mobility and the

counterinsurgency capabilities are essentially unchanged. The three capabilities associated with DePuy's Central European vision of mechanized warfare remain unchanged. The only change is the inclusion of the OOTW capability and the deletion of the stated capability of providing organic medical support. The battalion's weapons systems and personnel authorizations, excepting the machine gun section augmentation to each platoon, have remained unchanged.

OOTW, the major change to the 1995 version of FM 100-5, is superficially incorporated in the new TO&E. The TO&E appears to have remained fully aligned with doctrine. However, this simple change in the capabilities section of the TO&E does not render an organization expressly designed for mechanized combat capable of conducting OOTW missions. Twenty years of focusing and equipping a combat organization for mechanized Central European model warfare cannot be supplanted by the requirement to "augment" the unit in OOTW scenarios.

DePuy's vision for the IFV equipped force, so powerfully stated in the design concept fundamental to the Bradley battalion, cannot be adapted so easily. This organization has been designed for and singularly focused on the battle calculus of mechanized warfare. It has remained fixated on that mission since its inception. Twelve of the thirteen TO&E assigned missions are clearly combat missions, skewed to the NATO environment. Despite the current operational needs, the equipment and the manning realities cannot be altered summarily based on recent changes in the conditions of the battlefield.

The only method available to refocus the battalion, as it is now structured, on the broad demands of the OOTW mission is to make commensurate adjustments in its

training regimen. An examination of the battalion's doctrinal employment manuals allows an assessment of whether the army has taken this critical step.

IV. Doctrine Adrift

The evolution of the TO&E has been consistent in one area throughout the maturation of the BFV battalion organization: governing doctrinal publications. Section I of each TO&E perfunctorily lists the same four doctrinal manuals which are intended to govern the tactical employment of the mechanized infantry battalion.⁵⁵ The Division, Brigade, Battalion Task Force and Company Team manuals form the conceptual basis for the supporting training manuals that provide the tactics, techniques and procedures for training and tactically employing the subordinate units. Examining these four doctrinal manuals will reveal if the envisioned tactical employment of the Bradley battalion has been altered since its inception.

FM 71-100, Division Operations (Approved Final Draft), remains based on executing the DePuy inspired conventional battle, whether singly or in a joint or combined environment. Its battlefield framework is focused on refining the doctrinal shift from sequential to simultaneous attack reflected in the 1993 version of FM 100-5. It contains a single chapter on OOTW at the division level. This chapter discusses Battle Command and Battlefield Operating System (BOS) considerations at the division level for OOTW missions. It also lists the published doctrinal references for specific types of OOTW missions. While contributing excellent OOTW planning guidance at the division level, it contains no discussion of specific unit employment.⁵⁶ Since this manual provides the

conceptual basis for employing a division, it does not detail considerations (nor should it) for employing particular assets in all circumstances. As a result, it does not deal specifically with the OOTW employment of the Bradley battalion.

FM 71-3, The Armored and Mechanized Infantry Brigade (Final Draft), also remains centered on DePuy's concept of mechanized battle. It contains an Appendix on OOTW operations at the Brigade level. Although this appendix provides definitions of mission types and complexities, it does not contain brigade specific doctrinal employment guidance.⁵⁷ The vague demands of the multitude of OOTW scenarios render this an understandably difficult task, but this document provides no concrete guidance to the brigade's or the battalion's trainers and planners. It fails to offer any considerations for their employment in roles other than mechanized warfare. In the area of OOTW, it is considerably conceptually weaker than the division-level manual.

FM 71-2, The Tank and Mechanized Infantry Battalion Task Force, was published in 1988, and was modified by Change 1 in August, 1994. One might expect that this change would incorporate the execution of OOTW missions, as the Army's newest FM 100-5 was published in 1993; but this is not the case. In fact, the differences between DePuy's vision of the Bradley battalion, the TO&E's description of the battalion's duties, the new doctrinal demands, and the duties outlined in the field manual are disconcerting. The manual begins by asserting that it describes the doctrinal and tactical employment of the tank and mechanized infantry battalion task force on the AirLand Battlefield.⁵⁸ This is the concept reflected in the Bradley battalion's organization, and remains the major theme of the manual. This is totally in consonance with DePuy's vision as it evolved

through the 1986 version of FM 100-5. However, the confusion raised in the next section causes this semblance of consonance to disappear.

The next paragraph of the manual discusses the battalion task force's missions, capabilities and limitations. It accomplishes this by addressing the missions of each respective battalion and then examining the capabilities and limitations of a task force organization. It assigns the pure mechanized infantry battalion component of the task force the same generic infantry mission that the TO&E does. This is both expected and in keeping with traditional employment concepts. The discussion of the capabilities section begins by citing the benefits provided by task organizing the respective tank and mechanized infantry battalions. It continues by listing a single set of combined capabilities for the tank and mechanized infantry battalion task forces.

Tank and mechanized infantry battalion task forces apply their mobility, firepower and shock effect-

- To conduct sustained combat operations in all environments.
- To accomplish rapid movement and limited penetrations.
- To exploit success and pursue a defeated enemy as part of a larger formation.
- To conduct security operations (advance, flank, or rear guard) for a larger force.
- To conduct defensive, retrograde or other operations over assigned areas.
- To conduct offensive operations. ⁵⁹

These combined task force capabilities do not include the traditional "in house" duties assigned the mechanized infantry. Additionally, these capabilities fail to recognize the capabilities specifically listed in the mechanized infantry battalion TO&E. Finally, they bear little resemblance to the capabilities envisioned by DePuy as captured by his powerful concept expressed in Section III of this monograph. Their generic nature indicates a loss of focus between DePuy's original concept and the current doctrinal

vision of employment. This is confusing in that the organization is still designed to execute DePuy's initial concept. That this loss of focus occurs even before the vague demands of OOTW are raised is cause for further alarm. It appears that the clarity of purpose DePuy provided in 1976 is dissipating. The war fighting portion of the manual still reflects DePuy's basic vision, but the introductory paragraphs serve to needlessly cloud this vision.

The confusion is continued by the articulation of the limitations inherent to a heavy battalion task force. Interestingly enough, these limitations deal with the mobility and firepower restraints induced by geographic conditions, strategic mobility constraints, and the high consumption of supply items, especially Classes III, V and IX.⁶⁰ It makes no mention of the manpower limitations to be anticipated in certain scenarios, even though these shortages were a contentious issue of the infantry fighting vehicle equipped force as early as 1986.⁶¹ This weakness is recognized by the TO&E's reference to the possible requirement for augmentation for OOTW missions, but is ignored in the manual governing doctrinal employment.

A final inconsistency in FM 71-2 is reflected by the inclusion of the tenet of versatility without addressing the doctrinal employment of the task force in an OOTW scenario. OOTW was the driving force behind the addition of versatility to the tenets of Army operations in the 1993 version of FM 100-5. Infantry, by nature, is versatile. However, mechanized infantry is less versatile due to its increased lethality; a conscious decision made by DePuy in the original Bradley design. It makes little sense to require units to be 'multifunctional' if their organizational and doctrinal employment focus remain on the

mechanized war of the Central European model.⁶²

FM 71-1, The Tank and Mechanized Infantry Company Team, has not been updated since last published in 1988. It describes how the tank and mechanized company team is to fight on the AirLand Battlefield. A manifestation of the 1976 version of FM 100-5, it contains the modifications of the '82 and '86 versions while retaining the embodiment of General DePuy's vision for the Bradley battalion's tactical employment. Designed to maximize the tank and mechanized infantry company team's contributions to the battle calculus of the Central European-model battlefield, its focus completely supports this approach. Because of its relative age, it contains no references to OOTW or versatility.

These four manuals form the conceptual basis for the tactical employment of Bradley battalions. Two of the four have incorporated the modifications to the capstone doctrine introduced in the 1993 version of FM 100-5. The conceptual strength of the Division manual and the corresponding weakness of the Brigade manual in the area of OOTW is illustrative of the difficulties of incorporating this concept. Both manuals cover the possibility of OOTW distinctly separate from the doctrinal focus on conventional conflict. The "Tank and Infantry Battalion Task Force" manual reflects confusion on the role of mechanized forces. It fails to align the capabilities and limitations of the mechanized Bradley battalion organization with anticipated missions. It proceeds to present the Bradley infantry's role in the Central European mechanized model of warfare in consonance with DePuy's vision, but only after muddying that vision in the introductory paragraphs. It introduces the requirement for versatility, but fails to address OOTW at all. This manual represents the Infantry School's reluctance to envision the

Bradley battalion performing any doctrinal role other than that for which it was originally designed. The Company Team manual strongly reinforces this view.

In the mind of the Infantry School, as reflected in FM 71-2, the Bradley battalion remains doctrinally focused solely on executing the mechanized warfare DePuy envisioned in defending NATO. The tension between the requirement for versatility and the narrow design purpose of the Bradley battalion has not been resolved with clarity in this key piece of supporting doctrine. Given both the higher doctrinal purpose of the battalion and its corresponding organizational design, the Bradley battalion's specific doctrinal role in both war and OOTW must be firmly articulated by the Infantry School. Silence or tacit approval of non-doctrinal employment methods result in an imperfect alignment of concept, organization and mission. It encourages employment adrift from the foundations of doctrine and irrespective of the organizational design considerations. The planning and employment of Bradley units in this manner accepts hidden risks and masks organizational limitations. The implications of the infantry community's reluctance to doctrinally recognize and articulate their organization's design constraints are far reaching.

V. Implications

The tenet of versatility mandates that all military organizations have the ability to organize in different combinations and perform diverse missions without loss of focus. Although the Bradley battalion organization is capable of supporting this tenet in an extremely limited sense, it is clearly designed, equipped and doctrinally focused on mechanized warfare in the Central European model. The implications of the mis-match

of the Bradley battalion's doctrinal focus and its organizational capabilities are manifest in the areas of training, employment, resources, and future doctrinal considerations.

At the battalion level, the training focus of a unit must be thoroughly integrated with both the organizational realities and the envisioned doctrinal role. The implications of a mis-match are measured in terms of unit performance. The requirements imposed on a Bradley battalion to attain and maintain proficiency in tactically employing the BFV in its designed mounted role are totally consuming. It is evident from NTC after-action reviews and independent reports that most units are having considerable difficulty in performing these tasks.⁶³ To add the dismounted intensive requirements of OOTW to the battalion's already demanding mounted training regimen is dissipating the necessary focus on mounted operations. It can be done, but only by sacrificing proficiency in other areas. Consequently, rather than having a battalion fairly well trained in a single area, it is only marginally trained in two areas. This is not the intent of versatility. Deliberately fracturing a unit's training focus seriously degrades its capabilities and is contrary to the intent and purpose of mission focused training.

The mis-match of doctrine and organizational design causes employment problems at the battalion level which have added implications at higher levels. The employment problem at the battalion level is primarily one of manpower. OOTW missions are inherently manpower intensive due to the population control aspects of these types of missions.⁶⁴ The Bradley battalion's manpower shortages are well documented. There remains some concern as to whether it possesses enough manpower to adequately perform its mounted role irrespective of the concern over its ability to perform additional

dismounted roles. The Infantry School's initiative to add a machine gun element to each platoon is indicative of the existence of the first concern. The idea of expanding the BFV platoon to five BFVs capable of carrying the same number of dismounted infantrymen as a light infantry platoon is indicative of the latter concern. This springs directly from the necessity of the battalion to have a sufficient number of organic dismounted infantrymen to perform both MOUT and OOTW missions.⁶⁵

Employing the Bradley battalion on missions for which it is ill-equipped requires augmentation. Augmentation means a requirement to integrate and adequately train an essentially new organization prior to deployment. Establishing and building the tactical and command relationships critical to performing any mission requires time. Although habitual cross-attachment training may lessen the extent of this requirement, the current force structure does not station light and heavy units on the same installation to allow such training. Although greatly desired, habitual training opportunities for Bradley battalions with additional dismounted infantry augmentation (or vice versa) are rare. Subsequently, there is a forced reliance upon make-shift task organizations which is both inefficient and dangerous.

Employment considerations also have implications at higher levels. The main problem is one of force structure given the limited applicability of Bradley battalions to other than mechanized warfare. There are currently 70 infantry battalions of all types in the active force. Discounting training and special purpose units, there remain 63 battalions available to be deployed and sustained for extended periods as contingency forces. Of the 63 battalions available, 25 are BFV equipped.⁶⁶ The limited capabilities

of Bradley battalions means that the remaining 38 infantry battalions are forced to assume the stresses associated with maintaining a higher deployment tempo. These 38 battalions are bearing the brunt of the infantry role in the uncertain strategic environment. Even when a Bradley equipped unit is deployed in a non-traditional role, it requires augmentation that effectively drains a second Bradley battalion of its dismounted resources.⁶⁷

A third aspect of the higher level implications of the narrow capabilities of the Bradley force is in resources. The problem includes both the operational cost of the battalion and its deployment lift requirements. The cost of operating and maintaining a Bradley battalion is high compared to the costs of a light battalion. More significantly, the opportunity cost of possessing Bradley battalions without being able to employ them in a wider variety of missions increases the relative cost of the BFV unit.⁶⁸ Budget realities are beginning to prevent the Army from developing or maintaining units that are so specialized that their utility is limited. The current effort to examine the entire Army's force structure to provide a higher degree of flexibility reflects this reality.⁶⁹ The Army's doctrine demands versatility; the Bradley battalion's (and the Army's) current organization does not provide it. This means that costs, as much as any other factor, may soon require an examination of the number and composition of Bradley battalions. This is a doctrinally sobering prospect, but the fact remains that every organization the Army retains must be capable of fully supporting the tenet of versatility for fiscal reasons. In times of fiscal constraint, the Army must extract the maximum capability from each organization.

Deploying the Bradley battalion is a related aspect with higher level implications. Given the limited mobility assets at the Army's disposal, it must also extract the maximum capability from the available lift space. The volume and speed of the lift required to transport the current Bradley battalion makes it too asset demanding and too slow for employment in anything but a mechanized warfare scenario. (Although the use of POMCUS and afloat equipment lessens this requirement and speeds deployment, it also greatly increases the financial cost of maintaining this force). In light of these considerations, it appears that the idea to expand the Bradley battalion based on 80 BFVs is working at cross purposes with the realities of the deployment assets available. The huge requirement for lift assets serves to lessen the Bradley battalion's already limited versatility and serves to maintain the high rate of deployment tempo for the lighter forces.

A final area where doctrinal and organizational mis-match has implications is in the area of future doctrinal considerations. As the Army begins to more fully explore the impact and possibilities of simultaneous engagement, the organization of the Bradley battalion cannot be overlooked. General DePuy's vision for employing the Bradley battalion was based on mobile, armored warfare seeking attrition effects. The sequential aspect of his concept relied on the Bradley to fight an attrition style close fight with closing enemy forces. The subsequent adjustment of Army doctrine to impede the closure rate of enemy follow on forces relied on the same basic Bradley organization and mission. Developing doctrine now points toward future mechanized battle where the conditions are set to simultaneously engage the enemy throughout the depth of his

formation with the friendly force closing only when the enemy is shattered and the risk is low.⁷⁰ Although the requirement to exercise DePuy's concept of a mobile, attrition fight still exists, the refinement of targeting and engagement capabilities may allow significant modification of the current Bradley battalion organization.

VI. Conclusions

Deciding whether the Bradley battalion can perform the doctrinal missions outlined in the 1993 version of FM 100-5 is largely academic. Overlaying the requirement of versatility on an organization that took twenty years to evolve clearly detracts from its design purpose. The Bradley battalion can fight the mechanized battle envisioned by DePuy and refined by Starry. The Bradley battalion is versatile in the sense that its soldiers can be trained to accomplish any mission given an appropriate amount of time. However, the battalion organization is not versatile. It is limited by employment considerations and equipment constraints. In that sense, it does not fully support the current doctrine. Yet, there are other lessons from this monograph.

After examining the evolution of the Army level doctrine that effected the development of the Bradley, discussing the impact of that doctrine on the organization of the Bradley battalion, and looking at the supporting doctrine that governs employment of the battalion, one point is absolutely clear: Doctrine and organization must consistently add up to a single, clear vision. The Bradley battalion is now suffering from a fractured vision. The concept upon which it was based and developed, and the requirements for its use are slowly moving out of alignment. Without doubt the requirement for the Bradley battalion to execute mechanized warfare remains strong. However, changes in the

strategic environment, in the army's doctrine, and in the army's capabilities are eroding the focus of the battalion on its designed purpose. Rather than allowing the doctrine governing the employment of Bradley-equipped force to haphazardly adapt to these new demands, the Army must examine comprehensive and innovative adjustments to the force structure to increase its versatility. These adjustments can only be made after fully considering how they nest into the Army's overall vision of warfare.

The fractured vision impacting on the Bradley battalion is a symptom of a larger doctrinal illness affecting the entire Army. The strategic situation after Vietnam allowed General DePuy's initial concept to reduce the Army's training, modernization and resourcing efforts to counter the single, most dangerous threat. The vertical nesting his vision provided left little doubt as to where the leadership and resourcing emphasis needed to be applied. The current strategic environment defies such a reductionist approach, and has resulted in a fractured vision for the Army. Yet, some of the visual problem arises from a self-inflicted myopia. The institutional excitement over leveraging the potential advantages of information warfare, the doctrinal shift from sequential to simultaneous engagement, the effort to digitize the force, the exploration of split-based operations, the concept of just-in-time supply, and the examination of reorganizing the Army around a Brigade-based force are all being explored and touted *simultaneously*. These changes cannot be efficiently approached without a unifying vision. An overarching doctrinal vision, similar to that provided by General DePuy in 1976, must come first. Instead, in the army's haste to adopt emerging technologies and adapt to the new strategic environment, it may be moving at internal cross purposes. Vision must precede

action, and the semblance of action everywhere often results in no real action anywhere.

The Army needs a new unifying doctrinal vision. It requires an idea so powerful that it is able to re-establish the laser-like focus provided by General DePuy. Without this vision, the Army will attempt to achieve versatility despite the limitations imposed by its current weapons systems and force structure. To attempt to force an organization expressly designed for one purpose into the requirements of another without a clear sense of direction is akin to cutting the foot to fit the shoe. This is fraught with peril, as the next walk taken in the Army's proverbial new shoes may be terribly painful.

ENDNOTES

¹ Department of Defense, Dictionary of Military and Associated Terms, (Washington D.C.: Department of Defense, 1994), p. 120.

² Paul H. Herbert, Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations, (Fort Leavenworth: U.S. Army Command and General Staff College, 1988), p. 3.

³ Jonathan M. House, Toward Combined Arms Warfare: A Survey of 20th-Century Tactics, Doctrine, and Organization, (Fort Leavenworth: U.S. Army Command and General Staff College, 1984), p. 187.

⁴ Herbert, p. 4.

⁵ Richard E. Simpkin, Tank Warfare: An Analysis of Soviet and NATO Tank Philosophy, (New York: Crane Russak And Company Inc., 1979), p. 54.

⁶ Herbert, p. 26.

⁷ FM 100-5, 1976, p. 2-10.

⁸ Herbert, p. 28.

⁹ Ibid., p. 102.

¹⁰ John L. Romjue, From Active Defense to Airland Battle: The Development of Army Doctrine 1973-1982, (Fort Monroe: U.S. Army Training and Doctrine Command, 1984), p. 5.

¹¹ FM 100-5, 1976, p. 1-1.

¹² Ibid., p. 1-2.

¹³ Herbert, p. 99.

¹⁴ Romjue, p. 6.

¹⁵ FM 100-5, 1976, p. 2-2.

¹⁶ William E. DePuy, Selected Papers of General William E. DePuy: First Commander, U.S. Army Training and Doctrine Command, 1 July 1973, Compiled by Richard Swain, (Fort Leavenworth: Combat Studies Institute, U. S. Army Command and General Staff College, 1993), p. 162.

¹⁷ Herbert, p. 33.

¹⁸ Romjue, p. 6.

¹⁹ FM 100-5, 1976, p. 2-11.

²⁰ Paddy Griffith, Forward Into Battle: Fighting Tactics From Waterloo to The Future, (Novato: Presidio Press, 1991), p. 165.

²¹ Romjue, p. 24.

²² Griffith, p. 165.

²³ FM 100-5, 1976, p. 4-7.

²⁴ Richard E. Simpkin, Mechanized Infantry, (Oxford: Brassey's Publishers Limited, 1980), p. 48.

²⁵ FM 100-5, 1976, p. 5-8.

²⁶ Ibid., p. 5-13.

²⁷ Herbert, p. 63.

²⁸ Romjue, p. 36.

²⁹ Ibid., p. 26.

³⁰ Robert Leonhard, The Art of Maneuver: Maneuver-Warfare Theory and AirLand Battle, (Novato: Presidio Press, 1991), p. 137.

³¹ Comment made during AMSP Seminar Three in class discussion of FM 100-5 doctrinal evolution by LTC Charles Franklin, Seminar Leader, 12 Oct 95.

³² Herbert, p. 97.

³³ Romjue, p. 45.

³⁴ FM 100-5, 1982, p. 1-1.

³⁵ Ibid., p. 7-5.

³⁶ DePuy, p. 162.

³⁷ FM 100-5, 1986, p. 2.

³⁸ Ibid.

³⁹ Ibid., p. 41.

⁴⁰ FM 100-5, 1993, p. 1-1.

⁴¹ Ibid., p. 2-23.

⁴² Ibid., p. 2-9.

⁴³ Ibid.

⁴⁴ DePuy, p. 302.

⁴⁵ Mr Al Bowen and SSG Robert Harden, DCSOPS Requirements Documentation Directorate, Combat Maneuver Branch, interview with author, Fort Leavenworth, KS, 17 Oct 95.

⁴⁶ Frederick Rudesheim, The Bradley Infantry Squad Leader: A Breach of Faith?, (Fort Leavenworth, KS: School of Advanced Military Studies, 19 Dec 1992), p. 36.

⁴⁷ Department of the Army, Table of Organization and Equipment, Mechanized Infantry Battalion M113 and IFV Equipped, 1 Apr 83, p. G11.

⁴⁸ Ibid., p. G11.

⁴⁹ Herbert, p. 90.

⁵⁰ DePuy, p. 162.

⁴¹ TO&E, 1 Apr 83, pp. K11-A13.

⁵² Department of the Army, Table of Organization and Equipment, Mechanized Infantry Battalion M113 and IFV Equipped, 1 Apr 88, p. E7.

⁵³ Department of the Army, "White Paper: Bradley Fighting Vehicle Doctrine, Organization, Training," (Fort Benning, GA, 17 February, 1989). This document caused the internal reorganization of the Bradley dismounted platoon into two squads of nine men each. It aligned the IFV dismounted squad organization more closely with the light infantry squad organization and allowed the consistent employment of the fire team concept. Other slight modifications followed. In 1992, the number of M2s in the battalion increased to fifty eight, as each rifle company executive officer (XO) was provided an M2 for their role as second in command (2IC). This refinement was possible due to the Army's down sizing and reflected the influence of the Armor School on BFV employment doctrine. The M113 previously assigned to the XO was given to the First Sergeant (ISG) to provide him armored protection in the execution of his duties. The Scout Platoon M2s were withdrawn in lieu of the quieter, High Mobility Multi-Purpose Wheeled Vehicles (HMMWV) for patrolling and reconnaissance missions. A final equipment modification, begun in Europe in 1991 and still awaiting official approval, removes the ITV company from the TO&E and uses those personnel spaces to augment the dismounted platoons with a five man machine gun element. Despite these refinements, it is clear that the major combat systems remain focused overwhelmingly on the NATO battlefield, and have remained fundamentally unchanged since the battalion's inception.

⁵⁴ Department of the Army, Table of Organization and Equipment, Mechanized Infantry Battalion M113 and IFV Equipped, 1 Dec 1994, p. 1.

⁵⁵ Ibid.

⁵⁶ FM 71-100, Division Operations (Approved Final Draft), Department of the Army, (Washington D.C.: Department of the Army, 1995), pp. 8-1 to 8-14.

⁵⁷ FM 71-3, Armored and Mechanized Infantry Brigade (Final Draft), Department of the Army, (Washington D.C.: Department of the Army, 1995), Appendix A.

⁵⁸ FM 71-1, Tank and Mechanized Infantry Company Team, Department of the Army, (Washington D.C.: Department of the Army, 1988), p. iv.

⁵⁹ FM 71-2, The Tank and Mechanized Infantry Battalion Task Force w/Change 1, Department of the Army, (Washington D.C.: Department of the Army, 1994), p 1-2.

⁶⁰ Ibid., p. 1-3.

⁶¹ Richard Sholtes, "Where Have All the Infantrymen Gone?," Armed Forces Journal International, v124, no. 3, (October 1986), p. 92.

⁶² FM 71-2, w/Change 1, p. 1-6.

⁶³ This comment is synthesized from the observations of LTC John D. Rosenberger, "The Burden Our Soldiers Bear," and from the Center for Army Lessons Learned, "NTC Infantry Focused Rotation, 1 QTR FY 95, (Final Report)."

⁶⁴ Holistic Review of the Infantry, pp. 15-16.

⁶⁵ Ibid., p. 19.

⁶⁶ Office of Infantry Proponency briefing slides titled "March 1996 Active Component Infantry Force" and "Location of Infantry Force Active Component".

⁶⁷ Telephone conversation with LTC Dan Burgoine of the Dismounted Battle Lab at Fort Benning, 17 Oct 95.. LTC Burgoine commanded 4-12 Infantry in 1AD, and his comments on the effects of a Bradley battalion needing to use almost another entire battalion's allotment of dismounts to perform non-standard missions is based on his unit's augmentation and training for the UN mission in Macedonia. The Macedonia mission was designed for a single light battalion from the Berlin Brigade, and now requires three Bradley battalions (1 1/2 to perform and 1 1/2 in train up) to execute.

⁶⁸ For example, if the Bradley battalion costs 6 times as much in operating budget as a light battalion and has 1/3 the utility, it is 18 times more expensive to the Army in opportunity cost.

⁶⁹ Sean D. Naylor, "Three Options for Four Stars: Army Weighs Choices to Decide Direction of the Future Division," Army Times, v56, i12, (16 October 1995), pp. 12-14.

⁷⁰ This comment comes from the hand written notes of LTC John Harrington, Chief, Doctrine Production Division (Corps and Division), CGSC. On page 2-7 of the draft of FM 71-3, he recorded the comments raised in a General Officer Review Board of the FM. LTC Harrington's notes reflect a subtle doctrinal shift being advocated by LTG John

Miller, Deputy Commanding General of TRADOC. The note refers to the current doctrinal role of the bde commander (manuevers forces to create the conditions for success) being "no longer exactly true". It reads: "Need to address LTG Miller's shift in doctrine. We set precise conditions, use precision fires and employ maneuver as the decisive blow with minimum risk to soldiers!" Hand written comments with this theme appear at least three times throughout the draft text.

Bibliography

Books

- Bellamy, Christopher. The Evolution of Modern Land Warfare: Theory and Practice. London: Routledge, 1990.
- Brown, Frederic J. The U.S. Army in Transition II. New York: Brassey's (U.S.) Inc., 1993.
- Cohen, Eliot A., and John Gooch. Military Misfortunes: The Anatomy of Failure in War. New York: The Free Press, 1990.
- DePuy, William E. Selected Papers of General William E. DePuy: First Commander, U.S. Army Training and Doctrine Command, 1 July 1973. Compiled by Richard Swain. Fort Leavenworth, KS: Combat Studies Institute, U. S. Army Command and General Staff College, 1993.
- Dinardo, Richard L. Germany's Panzer Arm: Anatomy and Performance. Ann Arbor, MI : University Microfilms International, 1988.
- Edwards, Roger. Panzer: A Revolution in Warfare. London: Arms and Armour Press, 1993.
- English, John A. On Infantry. New York: Praeger Publishers, 1981.
- Griffith, Paddy. Forward Into Battle: Fighting Tactics From Waterloo to The Future. Novato, CA: Presidio Press, 1991.
- Herbert, Paul H. Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations. Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1988.
- House, Jonathan M. Toward Combined Arms Warfare: A Survey of 20th-Century Tactics, Doctrine, and Organization. Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1984.
- Leonhard, Robert. The Art of Maneuver: Maneuver-Warfare Theory and AirLand Battle. Novato, CA: Presidio Press, 1991.
- Marshall, S.L.A. Men Against Fire: The Problem of Battle Command in Future War. Gloucester, MA: Peter Smith, 1978.
- Romjue, John L. From Active Defense to Airland Battle: The Development of Army Doctrine 1973-1982. Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1984.

Simpkin, Richard E. Mechanized Infantry. Oxford: Brassey's Publishers Limited, 1980.

----- Race to the Swift: Thoughts on Twenty-First Century Warfare. London: Brassey's Defence Publishers, 1985.

----- Tank Warfare: An Analysis of Soviet and NATO Tank Philosophy. New York: Crane Russak And Company Inc, 1979.

Government Documents

Center for Army Lessons Learned. "NTC Infantry Focused Rotation 1 QTR, FY 95 (Final Report)." Fort Leavenworth, KS, 23 Jan, 1995.

Department of Defense. Dictionary of Military and Associated Terms. Washington D.C.: Department of Defense, 1994.

Department of the Army. ARTEP 71-1-MTP: Mission Training Plan for the Tank and Mechanized Infantry Battalion Task Force. Washington D.C.: Department of the Army, 3 October 1988.

----- ARTEP 71-2-MTP: Mission Training Plan for The Tank and Mechanized Infantry Company and Company Team. Washington D.C.: Department of the Army, 3 October 1988.

----- FM 100-5 Operations. Washington D.C.: Department of the Army, 1976.

----- FM 100-5 Operations. Washington D.C.: Department of the Army, 1982.

----- FM 100-5 Operations. Washington D.C.: Department of the Army, 1986.

----- FM 100-5 Operations. Washington D.C.: Department of the Army, 1993.

----- FM 7-7 The Mechanized Infantry Platoon and Squad (APC). Washington D.C.: Department of the Army, 15 Mar 1985.

----- FM 7-7J Mechanized Infantry Platoon and Squad (Bradley). Washington D.C.: Department of the Army, 7 May 93.

----- FM 71-1, Tank and Mechanized Infantry Company Team. Washington D.C.: Department of the Army, 1988.

----- FM 71-100, Division Operations (Approved Final Draft). Washington D.C.: Department of the Army, 1995.

- FM 71-100, Division Operations. Washington D.C.: Department of the Army, 1990.
- FM 71-2, The Tank and Mechanized Infantry Battalion Task Force w/Change 1. Washington D.C.: Department of the Army, 1994.
- FM 71-3, Armored and Mechanized Infantry Brigade (Final Draft). Washington D.C.: Department of the Army, 1995.
- FM 71-3, Armored and Mechanized Infantry Brigade. Washington D.C.: Department of the Army, 1988.
- Infantry Battalion (Mechanized) Table of Organization and Equipment Number 07245CO. Washington D.C.: Department of the Army, 1994.
- Infantry Battalion (Mechanized) Table of Organization and Equipment Number 07245J210. Washington D.C.: Department of the Army, 1983.
- Infantry Battalion (Mechanized) Table of Organization and Equipment Number 07245J210. Washington D.C.: Department of the Army, 1988.
- Weapons Systems. Washington D.C.: Department of the Army, 1991.
- Office of the Chief of Staff. Bradley Fighting Vehicle. White Paper. Washington, D.C.: Department of the Army, 25 Jan 1986.
- Rollier et al. BIFV Squad and Platoon Leader Span of Control. Sunnyvale, CA: Mellonics Systems Development Division, Dec 1985.
- Starry, Donn A. Mounted Combat in Vietnam. Vietnam Studies. Washington D.C.: Department of the Army, 1978.
- U.S. Army Infantry School. "Office of Infantry Proponency: Infantry Force Overview." Fort Benning, GA, March, 1995.
- United States Army Infantry School. "Advanced War Fighting Experiment (Concept Evaluation Program) of the Bradley Fighting Vehicle Platoon Organization (2x9+5)." Fort Benning, GA, 8 Aug 1994.
- "Holistic Review of the Infantry: A Concept For The Infantry Of The Twenty-First Century In Combat Operations And Operations Other Than War." Fort Benning, GA, 10 May, 1994.

-----, "White Paper: Bradley Fighting Vehicle Doctrine, Organization, Training." Fort Benning, GA, 17 February, 1989.

XVIII Airborne Corps. "XVIII Airborne Corps Operational Planning System (Draft)." Volume 5. Fort Bragg, NC, 1 April, 1992.

Monographs

Abt, Frederic E. Tactical Implications of the M2 Equipped Mechanized Infantry Battalion Dismount Strength. Fort Leavenworth, KS: School of Advanced Military Studies, 17 Jan 1988.

Brisson, Douglas D. How Much is Enough? The Requirement for Increased Infantry Dismount Strength in Heavy Divisions. Fort Leavenworth, KS: School of Advanced Military Studies, 4 Dec 1987.

Carmichael, John M. Devising Doctrine For The Bradley Fighting Vehicle Platoon Dismounted Element--Finding The Right Starting Point. Fort Leavenworth, KS: School of Advanced Military Studies, 9 Dec 1988.

Esper, Michael H. Dismounted Mechanized Infantry on the Future Airland Battlefield: Is the Squad Big Enough?. Fort Leavenworth, KS: School of Advanced Military Studies, 1991.

Freakley, Benjamin. The Interrelationship of Weapons and Doctrine: The Case of the Bradley Infantry Fighting Vehicle. Fort Leavenworth, KS: School of Advanced Military Studies, 4 Dec 1987.

Hoffman, Hugh. Making the Most of What We Have-Combat Power and the Bradley Dismounted Infantryman. Fort Leavenworth, KS : School of Advanced Military Studies, 26 Mar 1990.

Hughes, Stephen. The Evolution of the U.S. Army Infantry Squad: Where Do We Go From Here? Determining the Optimum Infantry Squad Organization for the Future. Fort Leavenworth, KS: School of Advanced Military Studies, 17 Dec 1994.

Ling, David. Combined Arms in the Bradley Platoon. Fort Leavenworth, KS: U.S. Army Command and General Staff College, 4 June 1993.

Rudesheim, Frederick. The Bradley Infantry Squad Leader: A Breach of Faith? Fort Leavenworth, KS: School of Advanced Military Studies, 19 Dec 1992.

Severn, Theodore. Airland Battle Preparation: Have We Forgotten To Train The Dismounted Mechanized Infantryman?. Carlisle Barracks, Pennsylvania: U.S. Army War College, 30 March 1988.

Sklar, Richard R. Junior NCO Leadership. Carlisle Barracks, PA: U.S. Army War College, 1 June 1982.

St Onge, Robert. The Combined Arms Role of the Armoured Infantry. Fort Leavenworth, KS: School of Advanced Military Studies, 13 May 1985.

Tucker, Christopher. The Mechanized Infantry Battalion: Is Change Necessary? Fort Leavenworth, KS: School of Advanced Military Studies, 31 Dec 1991.

Weimer, Michael B. Leadership Implications of Technology on Bradley Fighting Vehicle Squad Leaders. Fort Leavenworth, KS: U.S. Army Command and General Staff College, 5 Jun 1987.

Articles

DuPuy, William E. "Armor Conference Keynote Address." Armor vLXXXVI, no. 4 (July-August 1977): 31-35.

Naylor, Sean D. "Three Options for Four Stars: Army Weighs Choices to Decide Direction of the Future Division." Army Times 56th year, no. 12 (16 October 1995): 12-14.

Nordeen, Lon O. "The Bradley Under Attack: A Combined Arms Performer Endures Its Purgatory Alone." Army 37, no. 7 (July 1987): 63-69.

Ogorkiewicz, R.M. "The XM 723 Mechanized Infantry Combat Vehicle." International Defense Review 8, no. 5 (October 1975): 695-98.

Rosenberger, John D. "The Burden Our Soldiers Bear: Observations of a Senior Trainer (OC)." U.S. Army War College, Carlisle Barracks, PA, 1 March, 1995.

Sholtes, Richard. "Where Have All the Infantrymen Gone?" Armed Forces Journal International v124, no. 3 (October 1986): 92-97.

Simpkin, Richard E. "When The Squad Dismounts." Infantry 73, no. 6 (November-December 1983): 14-18.

Sparks, Mike. "M113s Maximize Mechanized Infantry Mobility and Firepower in Contingency Ops: Why Convert "Enhanced Readiness" Guard Units to the Bradley?" Armor CIV, no. 1 (January-February 1995): 6-14.

Uhle-Wettler, Franz. "Infantry Versus Tank: Common Sense and High Technology." NATO's Sixteen Nations 29, no. 3 (May-June 1984): 49-54.

Wass de Czege, Huba. "More on Infantry." Infantry 76, no. 5 (September-October 1986): 13-15.

----- "Three Kinds of Infantry." Infantry 75, no. 4 (July-August 1985): 11-13.

----- "Understanding and Developing Combat Power." Fort Leavenworth, KS, 10 February, 1984.